

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.

Application Serial Number: 10/543,633
Source: PCT
Date Processed by STIC: 08/08/2005

ENTERED



PCT

RAW SEQUENCE LISTING

DATE: 08/08/2005

PATENT APPLICATION: US/10/543,633

TIME: 16:28:22

Input Set : A:\21236p.txt

Output Set: N:\CRF4\08082005\J543633.raw

4 <110> APPLICANT: Jay Grobler
 5 Osvaldo Flores
 6 Eric J. Markel
 8 <120> TITLE OF INVENTION: METHOD TO CONFER CELL CULTURE
 9 REPLICATION ACTIVITY TO DIFFERENT HEPATITIS C VIRUS ISOLATES
 12 <130> FILE REFERENCE: 21236P
 C--> 14 <140> CURRENT APPLICATION NUMBER: US/10/543,633
 C--> 14 <141> CURRENT FILING DATE: 2005-07-28
 14 <150> PRIOR APPLICATION NUMBER: PCT/US04/03726
 15 <151> PRIOR FILING DATE: 2004-02-09
 17 <150> PRIOR APPLICATION NUMBER: 60/447,318
 18 <151> PRIOR FILING DATE: 2003-02-13
 20 <160> NUMBER OF SEQ ID NOS: 4
 22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 24 <210> SEQ ID NO: 1
 25 <211> LENGTH: 1985
 26 <212> TYPE: PRT
 27 <213> ORGANISM: Artificial Sequence
 29 <220> FEATURE:
 30 <223> OTHER INFORMATION: HCV Replicon
 32 <400> SEQUENCE: 1
 33 Met Ala Pro Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly
 34 1 5 10 15
 35 Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu Gly
 36 20 25 30
 37 Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys
 38 35 40 45
 39 Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys Thr
 40 50 55 60
 41 Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val Asp
 42 65 70 75 80
 43 Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Leu Thr
 44 85 90 95
 45 Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala
 46 100 105 110
 47 Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu
 48 115 120 125
 49 Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu
 50 130 135 140
 51 Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val Cys
 52 145 150 155 160
 53 Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser Met
 54 165 170 175

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55 Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro
56          180          185          190
57 Ala Val Pro Gln Ser Phe Gln Val Ala His Leu His Ala Pro Thr Gly
58          195          200          205
59 Ser Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr
60          210          215          220
61 Lys Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly
62 225          230          235          240
63 Ala Tyr Met Ser Lys Ala His Gly Ile Asp Pro Asn Ile Arg Thr Gly
64          245          250          255
65 Val Arg Thr Ile Thr Thr Gly Ala Pro Val Thr Tyr Ser Thr Tyr Gly
66          260          265          270
67 Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Ile Ile
68          275          280          285
69 Ile Cys Asp Glu Cys His Ser Thr Asp Ser Thr Thr Ile Leu Gly Ile
70          290          295          300
71 Gly Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val
72 305          310          315          320
73 Leu Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His Pro Asn
74          325          330          335
75 Ile Glu Glu Val Ala Leu Ser Asn Thr Gly Glu Ile Pro Phe Tyr Gly
76          340          345          350
77 Lys Ala Ile Pro Ile Glu Ala Ile Arg Gly Gly Arg His Leu Ile Phe
78          355          360          365
79 Cys His Ser Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu Ser Gly
80          370          375          380
81 Leu Gly Ile Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val
82 385          390          395          400
83 Ile Pro Thr Ile Gly Asp Val Val Val Val Ala Thr Asp Ala Leu Met
84          405          410          415
85 Thr Gly Tyr Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Cys
86          420          425          430
87 Val Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu
88          435          440          445
89 Thr Thr Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg Arg Gly
90          450          455          460
91 Arg Thr Gly Arg Gly Arg Met Gly Ile Tyr Arg Phe Val Thr Pro Gly
92 465          470          475          480
93 Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu Cys Tyr
94          485          490          495
95 Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr Ser Val
96          500          505          510
97 Arg Leu Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys Gln Asp
98          515          520          525
99 His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His Ile Asp
100          530          535          540
101 Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe Pro Tyr
102 545          550          555          560
103 Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro

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104					565					570					575	
105	Pro	Ser	Trp	Asp	Gln	Met	Trp	Lys	Cys	Leu	Ile	Arg	Leu	Lys	Pro	Thr
106				580					585					590		
107	Leu	His	Gly	Pro	Thr	Pro	Leu	Leu	Tyr	Arg	Leu	Gly	Ala	Val	Gln	Asn
108			595					600					605			
109	Glu	Val	Thr	Leu	Thr	His	Pro	Ile	Thr	Lys	Tyr	Ile	Met	Ala	Cys	Met
110		610					615					620				
111	Ser	Ala	Asp	Leu	Glu	Val	Val	Thr	Ser	Thr	Trp	Val	Leu	Val	Gly	Gly
112	625					630				635						640
113	Val	Leu	Ala	Ala	Leu	Ala	Ala	Tyr	Cys	Leu	Thr	Thr	Gly	Ser	Val	Val
114				645						650					655	
115	Ile	Val	Gly	Arg	Ile	Ile	Leu	Ser	Gly	Arg	Pro	Ala	Ile	Val	Pro	Asp
116			660						665					670		
117	Arg	Glu	Phe	Leu	Tyr	Gln	Glu	Phe	Asp	Glu	Met	Glu	Glu	Cys	Ala	Ser
118			675					680					685			
119	His	Leu	Pro	Tyr	Ile	Glu	Gln	Gly	Met	Gln	Leu	Ala	Glu	Gln	Phe	Lys
120		690					695					700				
121	Gln	Lys	Ala	Leu	Gly	Leu	Leu	Gln	Thr	Ala	Thr	Lys	Gln	Ala	Glu	Ala
122	705					710				715						720
123	Ala	Ala	Pro	Val	Val	Glu	Ser	Lys	Trp	Arg	Ala	Leu	Glu	Thr	Phe	Trp
124				725						730					735	
125	Ala	Lys	His	Met	Trp	Asn	Phe	Ile	Ser	Gly	Ile	Gln	Tyr	Leu	Ala	Gly
126			740						745				750			
127	Leu	Ser	Thr	Leu	Pro	Gly	Asn	Pro	Ala	Ile	Ala	Ser	Leu	Met	Ala	Phe
128		755					760					765				
129	Thr	Ala	Ser	Ile	Thr	Ser	Pro	Leu	Thr	Thr	Gln	Ser	Thr	Leu	Leu	Phe
130		770				775					780					
131	Asn	Ile	Leu	Gly	Gly	Trp	Val	Ala	Ala	Gln	Leu	Ala	Pro	Pro	Ser	Ala
132	785					790				795						800
133	Ala	Ser	Ala	Phe	Val	Gly	Ala	Gly	Ile	Ala	Gly	Ala	Ala	Val	Gly	Ser
134				805						810					815	
135	Ile	Gly	Leu	Gly	Lys	Val	Leu	Val	Asp	Ile	Leu	Ala	Gly	Tyr	Gly	Ala
136			820						825				830			
137	Gly	Val	Ala	Gly	Ala	Leu	Val	Ala	Phe	Lys	Val	Met	Ser	Gly	Glu	Met
138		835					840					845				
139	Pro	Ser	Thr	Glu	Asp	Leu	Val	Asn	Leu	Leu	Pro	Ala	Ile	Leu	Ser	Pro
140		850				855					860					
141	Gly	Ala	Leu	Val	Val	Gly	Val	Val	Cys	Ala	Ala	Ile	Leu	Arg	Arg	His
142	865				870					875						880
143	Val	Gly	Pro	Gly	Glu	Gly	Ala	Val	Gln	Trp	Met	Asn	Arg	Leu	Ile	Ala
144				885					890						895	
145	Phe	Ala	Ser	Arg	Gly	Asn	His	Val	Ser	Pro	Thr	His	Tyr	Val	Pro	Glu
146			900						905				910			
147	Ser	Asp	Ala	Ala	Ala	Arg	Val	Thr	Gln	Ile	Leu	Ser	Ser	Leu	Thr	Ile
148		915					920						925			
149	Thr	Gln	Leu	Leu	Lys	Arg	Leu	His	Gln	Trp	Ile	Asn	Glu	Asp	Cys	Ser
150		930				935					940					
151	Thr	Pro	Cys	Ser	Gly	Ser	Trp	Leu	Arg	Asp	Val	Trp	Asp	Trp	Ile	Cys
152	945					950				955						960

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153 Thr Val Leu Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro
154          965          970          975
155 Gln Leu Pro Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly
156          980          985          990
157 Val Trp Arg Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala
158          995          1000          1005
159 Gln Ile Thr Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro
160          1010          1015          1020
161 Lys Thr Cys Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr
162 1025          1030          1035          1040
163 Thr Thr Gly Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala
164          1045          1050          1055
165 Leu Trp Arg Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly
166          1060          1065          1070
167 Asp Phe His Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro
168          1075          1080          1085
169 Cys Gln Val Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg
170          1090          1095          1100
171 Leu His Arg Tyr Ala Pro Ala Cys Arg Pro Leu Leu Arg Glu Glu Val
172 1105          1110          1115          1120
173 Thr Phe Gln Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro
174          1125          1130          1135
175 Cys Glu Pro Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp
176          1140          1145          1150
177 Pro Ser His Ile Thr Ala Glu Thr Ala Lys Arg Arg Leu Ala Arg Gly
178          1155          1160          1165
179 Ser Pro Pro Ser Leu Ala Ser Ser Ser Ala Ile Gln Leu Ser Ala Pro
180          1170          1175          1180
181 Ser Leu Lys Ala Thr Cys Thr Thr His His Val Ser Pro Asp Ala Asp
182 1185          1190          1195          1200
183 Leu Ile Glu Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile
184          1205          1210          1215
185 Thr Arg Val Glu Ser Glu Asn Lys Val Val Val Leu Asp Ser Phe Asp
186          1220          1225          1230
187 Pro Leu Arg Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu
188          1235          1240          1245
189 Ile Leu Arg Lys Ser Lys Lys Phe Pro Ala Ala Met Pro Ile Trp Ala
190          1250          1255          1260
191 Arg Pro Asp Tyr Asn Pro Pro Leu Leu Glu Ser Trp Lys Asp Pro Asp
192 1265          1270          1275          1280
193 Tyr Val Pro Pro Val Val His Gly Cys Pro Leu Pro Pro Ile Lys Ala
194          1285          1290          1295
195 Pro Pro Ile Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Thr Glu
196          1300          1305          1310
197 Ser Ser Val Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly
198          1315          1320          1325
199 Ser Ser Glu Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Leu Pro
200          1330          1335          1340
201 Asp Gln Ala Ser Asp Asp Gly Asp Lys Gly Ser Asp Val Glu Ser Tyr

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```

202 1345          1350          1355          1360
203 Ser Ser Met Pro Pro Leu Glu Gly Glu Pro Gly Asp Pro Asp Leu Ser
204          1365          1370          1375
205 Asp Gly Ser Trp Ser Thr Val Ser Glu Ala Ser Glu Asp Val Val
206          1380          1385          1390
207 Cys Cys Ser Met Ser Tyr Thr Trp Thr Gly Ala Leu Ile Thr Pro Cys
208          1395          1400          1405
209 Ala Ala Glu Glu Ser Lys Leu Pro Ile Asn Ala Leu Ser Asn Ser Leu
210          1410          1415          1420
211 Leu Arg His His Asn Met Val Tyr Ala Thr Thr Ser Arg Ser Ala Gly
212 1425          1430          1435          1440
213 Leu Arg Gln Lys Lys Val Thr Phe Asp Arg Leu Gln Val Leu Asp Asp
214          1445          1450          1455
215 His Tyr Arg Asp Val Leu Lys Glu Met Lys Ala Lys Ala Ser Thr Val
216          1460          1465          1470
217 Lys Ala Lys Leu Leu Ser Val Glu Glu Ala Cys Lys Leu Thr Pro Pro
218          1475          1480          1485
219 His Ser Ala Lys Ser Lys Phe Gly Tyr Gly Ala Lys Asp Val Arg Asn
220          1490          1495          1500
221 Leu Ser Ser Lys Ala Val Asn His Ile His Ser Val Trp Lys Asp Leu
222 1505          1510          1515          1520
223 Leu Glu Asp Thr Val Thr Pro Ile Asp Thr Thr Ile Met Ala Lys Asn
224          1525          1530          1535
225 Glu Val Phe Cys Val Gln Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg
226          1540          1545          1550
227 Leu Ile Val Phe Pro Asp Leu Gly Val Arg Val Cys Glu Lys Met Ala
228          1555          1560          1565
229 Leu Tyr Asp Val Val Ser Thr Leu Pro Gln Val Val Met Gly Ser Ser
230          1570          1575          1580
231 Tyr Gly Phe Gln Tyr Ser Pro Gly Gln Arg Val Glu Phe Leu Val Asn
232 1585          1590          1595          1600
233 Thr Trp Lys Ser Lys Lys Asn Pro Met Gly Phe Ser Tyr Asp Thr Arg
234          1605          1610          1615
235 Cys Phe Asp Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Glu Ser
236          1620          1625          1630
237 Ile Tyr Gln Cys Cys Asp Leu Ala Pro Glu Ala Arg Gln Ala Ile Lys
238          1635          1640          1645
239 Ser Leu Thr Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys
240          1650          1655          1660
241 Gly Gln Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr
242 1665          1670          1675          1680
243 Thr Ser Cys Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala
244          1685          1690          1695
245 Cys Arg Ala Ala Lys Leu Gln Asp Cys Thr Met Leu Val Asn Gly Asp
246          1700          1705          1710
247 Asp Leu Val Val Ile Cys Glu Ser Ala Gly Thr Gln Glu Asp Ala Ala
248          1715          1720          1725
249 Ser Leu Arg Val Phe Thr Glu Ala Met Thr Arg Tyr Ser Ala Pro Pro
250          1730          1735          1740

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VERIFICATION SUMMARY

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Output Set: N:\CRF4\08082005\J543633.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application No

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date